Background on PGV Request for Waiver

On December 11, 1990 the Department received a request from PGV for an 8-year waiver of 60% of the geothermal royalties payable to the State. PGV's estimate was based on a resource (steam) value equaling 33% of the total electrical revenues generated. PGV uses an internal rate of return on their investment of 18%, and includes all costs in its cash flow projections, including "resource" costs which are believed to be acquisition, development and permitting costs. Assuming that the amount of steam and electricity produced is constant, two factors (i.e. assumed rate of return on capital and allowable costs) determine the amount of royalties and whether or not enough funds are available to pay the royalties. PGV's proposal (based on a 40% royalty payment) is to pay the State $1,893,000 over eight years instead of the estimated $4,731,000.

Using PGV's assumptions regarding steam production and electricity sales, DWRM's staff and their consultants have investigated several methods to value the resource and determine royalties. Our estimates of the first year's royalties for a 25 MW project range from $497,000 to $517,000 depending on the method selected. Overall, our consultants' and staff's estimates are close. One method suggested by PGV resulted in a first year royalty amount of zero.

Three valuation methods are discussed below: the netback method, the proportion of profits method, and the expanded netback method.

Netback Method

The netback method is used by the U.S. Department of Interior, Minerals Management Service to calculate geothermal royalties payable to the federal government. This method values the geothermal resource by deducting transmission and generation costs from the total revenues received from the sale of electricity. The netback method has three key features that are most important in valuing the resource: first, it only allows certain costs to be deducted. "Resource" costs such as those PGV includes in its cash flow analyses are not allowed. Second, the netback method puts a limit on the amount of generation costs that can be deducted. Third, the netback method uses the Standard and Poor's average industrial BBB bond rate for calculating the rate of return on capital. Any change in these three features of the netback method has a significant impact on the valuation of the resource and the calculation of royalties. Using the current MMS netback method and PGV's assumptions regarding steam production and electricity sales, royalties totaling $506,000 would be due to the State of Hawaii for the first full year of production.

(It should be noted that the current MMS rules on the netback method are under review and new rules are expected to be promulgated in May or June 1991.)

Proportion of Profits Method

The proportion of profits method is the method proposed by the Geothermal Resource Association (the industry's lobbying association) to value the resource. This method uses all costs, including "resource" costs, to calculate the resource value. It values the resource as a proportion of the operating income, in a ratio to the proportion of resource assets to total assets involved in the project. This method was presented to DWRM staff at a March 27, 1991 meeting with PGV in which a new set of cash flow figures were submitted. Using this method, the first year's royalties equals $395,000, and calculated over eight years the royalty totals $3,618,000.

"Expanded Netback Method"

A "mixed" or compromise method proposed by DWRM's consultant Steven Morris points to the fact that the rate of return on invested capital is the key to the valuation of royalty amounts and the project's availability of funds to pay the royalty. Mr. Morris suggests that the State of Hawaii view the issues of whether or not to waive royalty separate from the issue of calculating the royalty. He performs two analyses in his review: first, he calculates the royalty under the current netback method except that he uses a higher interest rate of 15% (instead of the S&P BBB Industrial Bond Rate) as the rate of return on capital. Second, he subtracts "resource" costs from the total revenues to determine how much funds are available in the project to pay royalties. If there is insufficient funds left in the project after allowing the deduction of these actual costs, and using a higher (i.e. more realistic) rate of return, he concludes that the royalty cannot be paid that year, or that perhaps only a portion of it can be paid. His figures support a total waiver of royalty for the first year, and partial waivers the second through fourth years. From the fifth year on the full royalty should be paid. Mr. Morris' calculation of the total royalties payable to the State over eight years amount to $5,036,000.

Pending Legislation

Should S.B. 1523 be adopted as statute, geothermal royalties must be shared with OHA (20%) and the county (30%). However, it has yet to be determined whether the Department can waive royalties specifically designated for other agencies.